

# Sierra Leone - Water Sector Reform

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# Overview

## Identification

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**COUNTRY**

Sierra Leone

**EVALUATION TITLE**

Water Sector Reform

**EVALUATION TYPE**

Independent Evaluation

**ID NUMBER**

DDI-MCC-SLE-WATER-SI-2019-v01

## Version

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**VERSION DESCRIPTION**

- v02A (2019-10-30): This is the second metadata entry for the Sierra Leone THP evaluation and focuses specifically of water activities. It has been developed on the basis of the Evaluation Design Report.

## Overview

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**ABSTRACT**

The Sierra Leone Threshold Program (THP) external evaluation contains two primary components. The first views the THP in its entirety, incorporating information and data from the Water Sector Reform Project (WSRP), the Electricity Sector Reform Project (ESRP) and the Regulatory Sector Reform Project (RSP) into a performance evaluation (Evaluation Questions (EQs) 1-8). The second component provides an in-depth investigation, through the use of interrupted time-series analysis (ITSA) based on system-level data and a comparative longitudinal study based on household survey data, of one component of the WSRP, the DMA/Kiosk Activity (EQs 9-12). All Evaluation questions explore water related issues, activities, outcomes, and impacts. Evaluation Questions include:

1. Were the Activities/Sub-Activities implemented as designed? What were the challenges and successes in implementing the reform activities in the sectors?
2. To what extent did the Projects/Activities accomplish the desired outputs and outcomes outlined in the program logics? For the ESRP this should include but is not limited to improved financial relationship between EGTC and EDSA, improved efficiency at targeted substations and generation facilities, etc.; and for the WSRP: operation and maintenance conducted more regularly and effectively, billings and collections increased, and improved responsiveness to customers.
3. To what extent has coordination and planning within the water and electricity sectors improved as a result of THP activities?
4. What evidence is there that EGTC, EDSA and GVWC are becoming financially viable as a result of the THP activities? To what extent do these entities operate on principles that allow for cost recovery? Has cost of service improved?
5. What are the impacts of the THP activities on business operations and strategic planning within EGTC, EDSA and GVWC? How well did EGTC, EDSA and GVWC institutionalize (into the organization's culture and behaviors) the transformations that took place under the THP?
6. How useful was the THP's "dry run" (tariff development process) for helping to establish the tariffs in the water and electricity sectors? What were the challenges and successes in this process? To what extent does the tariff structure adopted allow for cost recovery of the utilities in the sector?
7. What lessons can be learned from the implementation of the RSP? What is the impact of the results-based financing process on improving EWRC capacity to effectively monitor alternative water services providers and utilities in the water and electricity sectors? What is the impact of the results-based financing process on the operational and financial efficiency of the utilities? To what extent are the results achieved under this Sub-activity sustained beyond the THP?

8. How sustainable are the outcomes of the projects and activities and why (including around sector coordination, utility financial, commercial and operational improvements, etc.)? How was sustainability planning done during implementation and what best practices and lessons learned can be drawn from that process?

To answer the EQs above, SI will take a mixed methods approach, including both qualitative and quantitative methods through a framework developed on principles of organizational capacity assessment (OCA). The proposed methods include: 1) document review, 2) secondary data usage, 3) key informant interviews (KIIs), 4) focus group discussions (FGDs), 5) direct observation (DO), and 6) process mapping.

9. Were the activities in the DMA/Kiosk effective at reducing NRW, and if so, which activities were the most effective?

10. How did the activities pilot impact service reliability, cost of water, water quality, water collection times, consumer citizenship attitudes and behaviors, and satisfaction with water service in the targeted DMA? What evidence is there that the technical assistance provided to the GVWC resulted in increased capacity to affect outcomes related to gender and social equity in the DMA?

11. What is the impact of the DMA/Kiosk Activity on standpipe management, the levels of water service provided by the developed/rehabilitated standpipes under the THP and post-THP (e.g. hours of water, water quality, etc.)? How does the private sector approach to standpipe management (MCC-sponsored kiosks or networks) compare to other standpipe management approaches (e.g., community managed kiosks or networks) practiced in the Freetown area in terms of service reliability, maintenance, cost to households and revenues for GVWC?

12. Are there systems and results in the DMA around NRW and the standpipe pilot that can be sustainably replicated to other GVWC service areas? What factors/indicators are critical to ensure successful replication?

In addition to some of the methodologies noted above for EQs 1-8, SI will employ additional measurements for EQs 9-12 including household surveys and the use of sensor technology.

Data collection will take place at primarily two points in time in 2020, near the end of the THP and 2020, two years following the program.

## EVALUATION METHODOLOGY

Other (Performance Evaluation)

## UNITS OF ANALYSIS

The units of analysis include individuals, water kiosks, households, utility service processes, and customer groups connected to the utility institutions.

## KIND OF DATA

Administrative records data [adm], Observation Data, Sensor Data, Direct Surveys and Interviews

## TOPICS

Topic	Vocabulary	URI
Water, Sanitation and Hygiene	MCC Sector	

## KEYWORDS

Sierra Leone, Regulation, Water, Threshold, Utility Service Provision, Private Sector Participation

## Coverage

### GEOGRAPHIC COVERAGE

While at a broad level, the THP can be interpreted to effect citizens across Sierra Leone, the evaluation described in the Evaluation Design Report focuses more narrowly on greater Freetown. The WSRP includes households who currently source their water from GVWC in Freetown. According to the 2011 Sierra Leone integrated Household Survey (SLIHS), 75 percent of households in Freetown receive their water from GVWC. This figure should be inclusive of not just household hook-ups, but also those who receive their water through standpipes, satchels, etc. The district metering activity included in the THP and evaluation concentrates on a smaller population: individuals in Aberdeen and Kingtom neighborhoods within Freetown.

## UNIVERSE

The study population for the Water Performance and DMA Evaluation include individuals employed or connected to the participating institutions: GVWC and EWRC.

It also includes household members living in District Metering Areas targeted by the program in Freetown and associated water kiosks.

## Producers and Sponsors

### PRIMARY INVESTIGATOR(S)

Name	Affiliation
Social Impact, Inc.	

### FUNDING

Name	Abbreviation	Role
Millennium Challenge Corporation	MCC	

## Metadata Production

### METADATA PRODUCED BY

Name	Abbreviation	Affiliation	Role
Millennium Challenge Corporation	MCC		Review of Metadata
Social Impact	SI		Drafting of Metadata

### DATE OF METADATA PRODUCTION

2019-10-30

### DDI DOCUMENT VERSION

Version 2A (Original 2019 - 10 - 30)

### DDI DOCUMENT ID

DDI-MCC-SLE-WATER-SI-2019-v01

## MCC Compact and Program

### COMPACT OR THRESHOLD

Sierra Leone Threshold

### PROGRAM

To address challenges facing the water and electricity sectors in Sierra Leone, The Millennium Challenge Corporation (MCC) established a \$44.4 million Threshold Program agreement with the government of Sierra Leone in 2015. The Sierra Leone Threshold Program (THP) focuses on two binding constraints identified in Sierra Leone's Constraints Analysis (CA): (1) lack of access to reliable and affordable electricity and (2) lack of access to clean water and sanitation. Three projects were designed to address these constraints: (1) the Regulatory Strengthening Project (RSP); (2) the Water Sector Reform Project (WSRP); and (3) the Electricity Sector Reform Project (ESRP). The expected outcome of these three initiatives is a foundation for more effective and sustainable services to ultimately attract sector investment and directly benefit households in Freetown. The WSRP addresses the issue of inadequate access to clean water by focusing on activities designed to provide technical assistance, build capacity, and establish a district metering area (DMA) to test new management approaches and reduce non-revenue water (NRW). WSRP is an effort to bolster the performance of the Private Public Partnerships by strengthening operations and performance of Guma Valley Water Company (GVWC), the main water provider in greater Freetown. The WSRP consists of three key activities, including the Urban WASH Sector Roadmap and Coordination Activity, the Guma Valley Water Company Institutional Strengthening Activity, and the DMA/ Standpipe Demonstration Activity, referred to as the DMA/Kiosk activity. The activities are implemented with the intention of achieving improved financial and operational efficiency, service provision, and household welfare. The Urban WASH Sector Roadmap and Coordination Activity aims to develop a water sector roadmap and steering committee under the premise that improved interactions among stakeholders with clearly defined roles will lead to greater sector coordination and efficiencies. The Guma Valley Water Company Institutional Strengthening Activity focuses on the provision of technical assistance, customer and network mapping and increased customer engagement to improve the efficiency, cost, billing, and collection of services offered

through advanced information. The District Metering Area and Standpipe Demonstration Activity (DMA/Kiosk Activity) is expected to establish DMA within GVWC's system and explore private-public partnerships (PPP) through the establishment of kiosks in order to isolate sources of NRW, improve water reliability and quality, and increase customer satisfaction and billings. The RSP is also intended to address water related challenges by working with the Government of Sierra Leone to build the capacity of the new independent regulator, the Electricity and Water Regulatory Commission. Among other goals, the RSP aims to support the long-term financial sustainability of the water sector and improve overarching sector governance. The RSP consists of two activities: the Electricity and Water Regulatory Commission Institutional Strengthening Activity and the Performance-Based Regulation Sub-Activity (also known as RBF).

## **MCC SECTOR**

Capacity Building and Institutional Development (Cap Bldg & Inst Dev)

## **PROGRAM LOGIC**

At its most basic, the Theory of Change (ToC) is consistent across all three projects (water, electricity, and regulatory) and can be summarized as follows: if improvements can be made to strengthen institutional capacity, technical capability, and coordination, then the generation and transmission of key services can be improved, and households and businesses can utilize those services for economic growth. Whereas compacts may be largely focused on infrastructure development, community awareness and education, and economic initiatives, the THP recognizes that sustainable change is best achieved once stable institutions and policies are in place. For the WSRP, institutional capacity, technical capability, and coordination are intended to more specifically increase financial viability of GVWC, operational efficiency of GVWC, and customer satisfaction with water services.

## **PROGRAM PARTICIPANTS**

As the THP is aimed at improving institutional operations, program participants are primarily individuals working or connected to targeted institutions including the Sierra Leone Electricity and Water Regulatory Commission and the Guma Valley Water Company. These individuals and institutions will receive assistance through the THP in the form of trainings, technical assistance, and coordination. Additionally, GVWC will partake in the DMA/Kiosk activity in two DMAs in Freetown. Related evaluation activities will include household interviews in targeted DMA. As such, Guma Valley Water Company customers comprise a large portion of program participants whose service provision may change as a result of THP water activities.

# Sampling

## Study Population

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The study population for the Water Performance and DMA Evaluation include individuals employed or connected to the participating institutions: GVWC and EWRC. It also includes household members living in District Metering Areas targeted by the program in Freetown and associated water kiosks.

## Sampling Procedure

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For the performance evaluation, Most key informants are expected to be selected using a purposive sampling technique. In some cases, there may only be one person or a few specific people who are performing the role whose perspective is required as a key informant. Prior to each round of data collection, SI will review project documentation and work with MCC and MCCU (at interim) to identify key informants. In the event that an identified informant indicates a colleague who could provide additionally illuminating information, we will attempt to contact this colleague to serve as an additional informant (snowball sampling). Direct observation and process mapping will be conducted in a similar purposive technique with the intention of identifying observational sites and processes that can divulge the most information while representing a diverse range of project activities. The sample size is contingent on the method of data collection. In general, SI is proposing 15-20 KIIs for the water sector, 5-10 KIIs for the RSP, 3-5 for overall programming. Direct observation is expected to take place at 2-3 sites for the water sector (excluding the DMA/Kiosk activity) and at least 1 steering committee meeting for the water sector. Two process mapping exercises are expected for the WSRP under the THP.

For the District Metering Activity, the sampling area including Aberdeen and Kingtom as targeted DMAs and Cockle Bay as a comparison was determined by GVWC prior to the start of the evaluation period. Targeted DMAs were considered fixed as part of the program intervention and SI will continue to utilize Cockle Bay as the comparison area given available baseline data and a review of its comparability. SI will employ the same sampling strategy utilized in an independent baseline, a "cross-sectional multi-stage clustering" sample design. The first stage included the clustering of households within Enumeration Areas (EAs) based off the Sierra Leone 2015 census; 67 EAs were identified among the 3 DMAs. Then SI will sample 10 percent of households randomly from each EA.

# Questionnaires

## Overview

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TBD

## Data Collection

### Questionnaires

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TBD



## Data Processing

No content available

## Data Appraisal

No content available